

WHAT IS CLAIMED IS:



1. A multilayer circuit component comprising a substrate, a first glass-containing layer on the substrate and a second glass-containing layer on said first glass-containing layer, wherein of the first glass-containing layer has a wettability relative to the substrate and of the second glass-containing layer has a wettability relative to the first glass-containing layer such that the baking shrinkage rates of the first and second glass-containing layers are about the same.

2. A multilayer circuit component according to Claim 1, wherein a glass in the first glass-containing layer and a glass in the second glass-containing layer have softening temperatures which are different.

3. A multilayer circuit component according to Claim 2, wherein the glass of said first glass-containing layer has a contact angle relative to said substrate which is larger than the contact angle of the glass of said second glass-containing layer relative to said first glass-containing layer; and wherein the said glass of said first glass-containing layer has a softening temperature which is lower than the softening temperature of the glass of said second glass-containing layer.

4. A multilayer circuit component according to Claim 2, wherein the glass of said first glass-containing layer has a contact angle relative to said substrate which is smaller than the contact angle of the glass of said second glass-containing layer relative to said first glass-containing layer; and wherein the glass of said first glass-containing layer has a softening temperature which is higher than the softening temperature of the glass of said second glass-containing layer.

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5. A multilayer circuit component according to Claim 2, wherein the difference between the softening temperatures of the glass of said first glass-containing layer and the glass of said second glass-containing layer is at least about 30°C.

6. A multilayer circuit component according to Claim 2, wherein each of the first and second glass-containing layers comprise glass and ceramic, and the glass contents of the first and second glass-containing layers are different.

7. A multilayer circuit component according to Claim 6, wherein the glass of said first and second glass-containing layers are low softening temperature glasses.

8. A multilayer circuit component according to Claim 6, wherein the glass of the first glass-containing layer has a contact angle relative to said substrate which is larger than the contact angle of the glass of the second glass-containing layer relative to said first glass-containing layer; and wherein the glass content of said first glass-containing layer is larger than the glass content of said second glass-containing layer.

9. A multilayer circuit component according to Claim 6, wherein the glass of the first glass-containing layer has a contact angle relative to said substrate which is smaller than the contact angle of the glass constituting said second glass-containing layer relative to said first glass-containing layer; and wherein the glass content of said first glass-containing layer is smaller than the glass content of said second glass-containing layer.

10. A multilayer circuit component according to Claim 6, wherein the glass of the first glass-containing layer has a contact angle relative to said substrate which is larger than the contact angle of the glass of said second glass-containing layer relative to said first glass-containing layer; and wherein the content of low softening temperature glass in the first glass-containing layer is larger than the content of low softening temperature glass in the second glass-containing layer.

11. A multilayer circuit component according to Claim 6, wherein the glass of first glass-containing layer has a contact angle relative to said substrate which is smaller than the contact angle of the glass of said second glass-containing layer relative to said first glass-containing layer; and the content of low softening temperature glass in the first glass-containing layer is smaller than the content of low softening temperature glass in the second glass-containing layer.

12. A multilayer circuit component according to Claim 6, wherein the glasses of the each of the first and second glass-containing layers comprise at least two different glasses of which at least one is a low softening temperature glass; and wherein the proportion of low softening temperature glass relative to total glass in said first and second glass-containing layers are different.

13. A multilayer circuit component according to Claim 12, wherein the glass of said first glass-containing layer has a contact angle relative to said substrate which is larger than the contact angle of the glass of said second glass-containing layer relative to said first glass-containing layer; and the content of glass in said first glass-containing layer is larger than the content of glass in said second glass-containing layer.

14. A multilayer circuit component according to Claim 12, wherein the glass of the first glass-containing layer has a contact angle relative to said substrate which is smaller than the contact angle of the glass of the second glass-containing layer relative to said first glass-containing layer; and the content of glass in said first glass-containing layer is smaller than the content of glass in said second glass-containing layer.

15. A method for manufacturing a multilayer circuit component which comprises at least two glass-containing layers on a substrate, in which the baking shrinkage rates of the first glass-containing layer and second glass-containing layer formed are about the same, comprising:

(a) applying and drying a first photosensitive glass paste comprising glass having a softening temperature and a photosensitive vehicle to a substrate;

(b) forming a via hole pattern on the resulting dried first paste;

(c) baking the resulting paste with said via hole pattern so as to form a first glass-containing layer;

(d) applying and drying a second photosensitive glass paste comprising glass having a softening temperature and a photosensitive vehicle, on said first glass-containing layer;

(e) forming a via hole pattern on the resulting dried second paste; and

(f) baking the resulting second paste with said via hole pattern so as to form a second glass-containing layer;

wherein at least one parameter selected from glass softening temperature and glass content in the first glass paste is different from the same parameter in the second glass paste, whereby the baking shrinkage rates of the first glass-containing layer and second glass-containing layer formed are about the same.

16. A method for manufacturing a multilayer circuit component according to Claim 15, wherein the glass softening temperature parameter in the first glass paste is different from the glass softening temperature parameter in the second glass paste.

17. A method for manufacturing a multilayer circuit component according to Claim 16, wherein the glasses in the pastes are such that

the glass of the first glass-containing layer has a contact angle relative to said substrate which is larger than the contact angle of the glass of the second glass-containing layer relative to said first glass-containing layer; and

the softening temperature of the glass in the first photosensitive glass paste is lower than the softening temperature of the glass in the second photosensitive glass paste.

18. A method for manufacturing a multilayer circuit component according to Claim 16, wherein the glasses in the pastes are such that

the glass of the first glass-containing layer has a contact angle relative to said substrate which is smaller than the contact angle of the glass of the second glass-containing layer relative to said first glass-containing layer; and

the softening temperature of the glass in the first photosensitive glass paste is higher than the softening temperature of the glass in the second photosensitive glass paste.

19. A method for manufacturing a multilayer circuit component according to Claim 16, wherein the difference between the softening temperature of the glass in the first photosensitive glass paste and the softening temperature of the glass in the second photosensitive glass paste is at least about 30°C.

20. A method for manufacturing a multilayer circuit component according to Claim 15, wherein the glass content in the first glass paste is different from the glass content in the second glass paste.

21. A method for manufacturing a multilayer circuit component according to Claim 20, wherein the first and second photosensitive glass pastes each comprise low softening temperature glass and the low softening temperature glass content in the first and second photosensitive glass pastes are different.

22. A method for manufacturing a multilayer circuit component according to Claim 21, wherein the first and second photosensitive glass pastes each comprise ceramic.

23. A method for manufacturing a multilayer circuit component according to Claim 21, wherein the glass in each of the first and second photosensitive glass pastes comprise low softening temperature glass.

24. A method for manufacturing a multilayer circuit component according to Claim 20, wherein the glass in the first photosensitive glass paste comprises low softening temperature glass.

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